Patent Application Publication

FIG. 1A

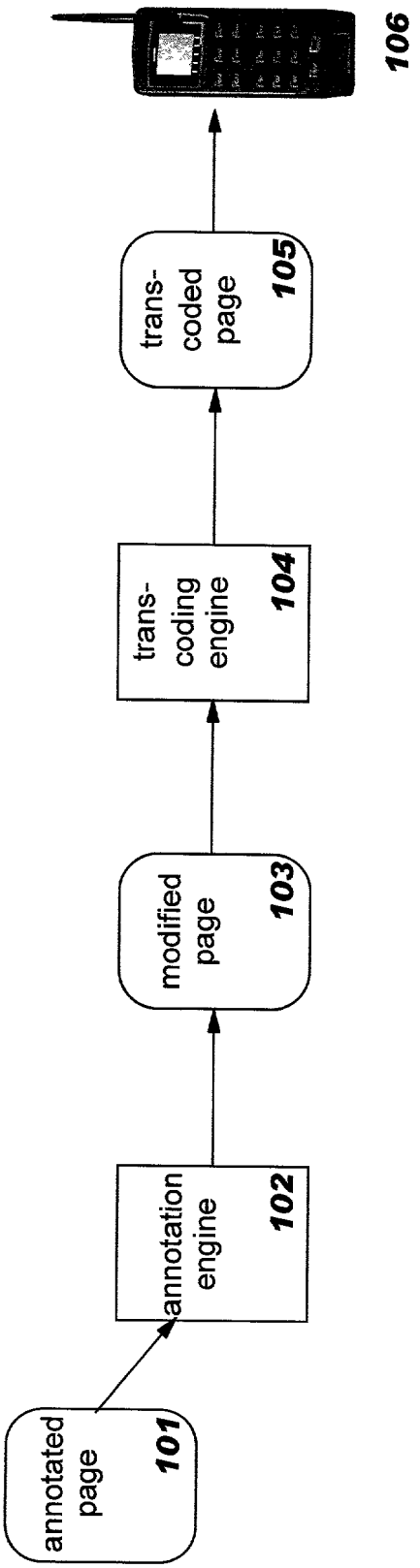


FIG. 1B

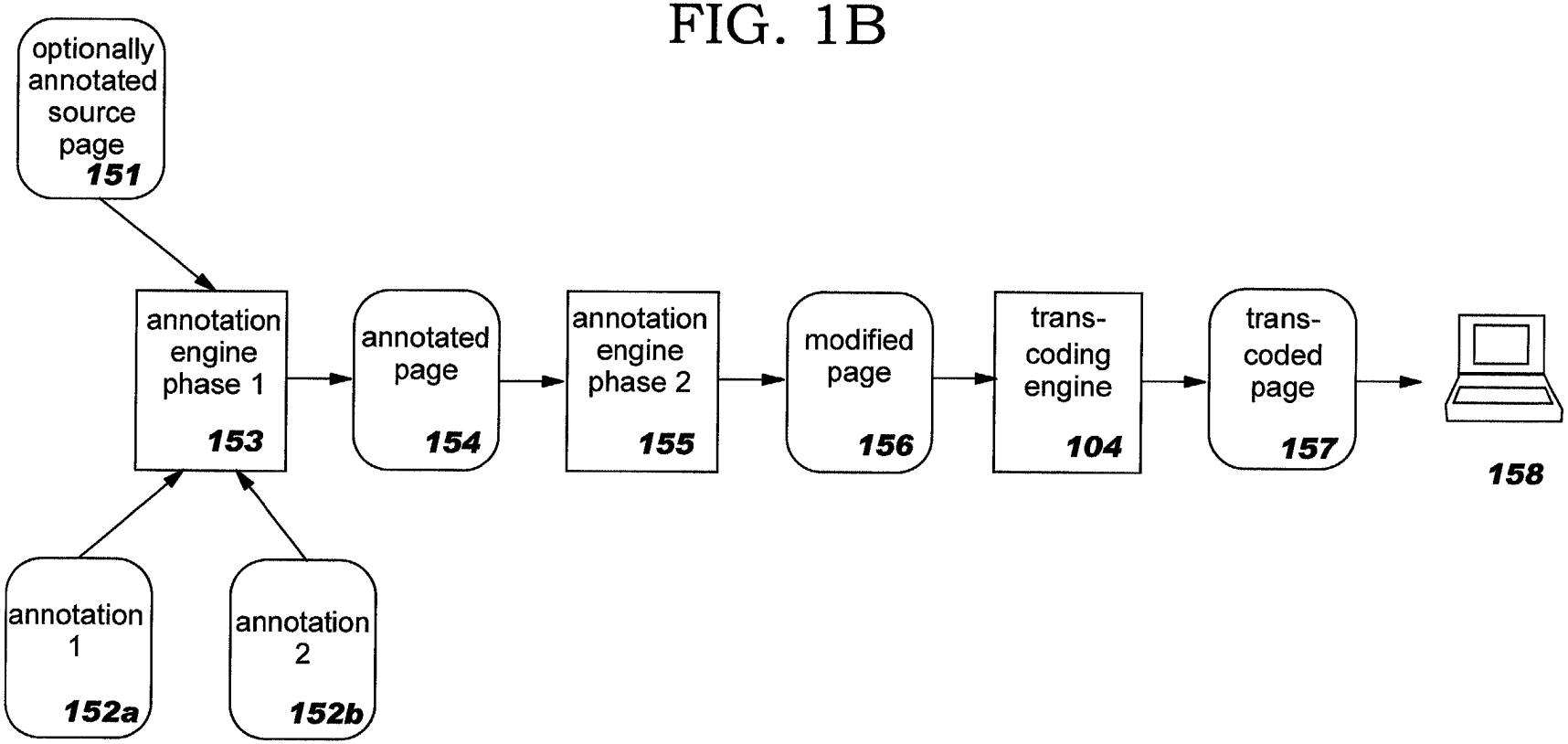

optionally annotated source page
151
annotation engine phase 1
153
annotated page
154
annotation engine phase 2
155
modified page
156
trans-coding engine
104
trans-coded page
157
158
annotation 1
152a
annotation 2
152b

FIG. 2A

200

```
<html>
<head>
<title>Internal Annotation Example</title>

<body>

210 <p>Here is the first sentence.

    <!--
     <?xml version="1.0" encoding="ISO-8859-1"?>
     <annot version="1.0">
220    <remove/>
     </annot>          230
    -->

    <p>And here is another sentence.
240 <b>Hello world.</b>

</body>
</html>
```

FIG. 2B

250

```
<html>
<head>
<title>Internal Annotation Example</title>

<body>

210 <p>Here is the first sentence.

</body>
</html>
```

FIG. 3
(PRIOR ART)

Globbing Pattern	Regular Expression	Explanation
"abc"	"^abc$"	The string "abc".
"abc*def."	"^abc.*def\.$"	The string starting with "abc" and ending with "def.".
"*abc*"	"abc"	A string containing "abc".
"*{ab,cd}*ter."	"(ab|cd).*ter\.$"	A string containing "ab" or "cd" which ends with "ter.".

FIG. 4A

400

```
<p>
    <a href="http://www.wral-tv.com/weather/">
        <span style='text-decoration:none;text-underline:none'>
            <img border=0 width=160 height=120 id="_x0000_i1026"
                src="http://www.wral-tv.com/weather/current/bug2-160x120.gif">
        </span>
    </a>
    <a href="http://www.InternetTrafficReport.com/">
        <span style='text-decoration:none;text-underline:none'>
            <img border=0 width=150 height=100 id="_x0000_i1027"
                src ="http://graphics.internettrafficreport.com/trafficindex.gif">
        </span>
    </a>
</p>
```

410

420

FIG. 4B

450

```
/descendant::p[descendant::img[globb-search(@src, "*internettrafficreport.com*.gif*")]]
```

451 452 453 454 455

FIG. 5A

500

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<annot version="1.0">
    <comment>External Annotation Example 1</comment>

510 <description take-effect="after" target="/HTML[1]/BODY[1]/*[1]">
        <remove />
    </description>
</annot>
```

FIG. 5B

550

```
<html>
<head>

<body>

<p>Here is the first sentence.

<p>And here is another sentence.
<b>Hello world.</b>

</body>
</html>
```

FIG. 6

600

```
<?xml version='1.0' ?>
<annot version="1.0">

<description take-effect="before" target="/descendant::TR[2]"
             match-key="/display.small/device.cellphone/">
    <remove />                                          610
</description>

<description target="/descendant::P[descendant::text()[contains(.,'IBM')]]"
             match-key="/display.gray4/device.pda/device.cellphone/">
    < take-effect-before>                               620
        <push/>
        <keep/>
        <remove tag="IMG" />
    </take-effect-before>

    < take-effect-after>
        <pop/>
    </ take-effect-after>
</description>

</annot>
```

FIG. 7A

700

```
<?xml version='1.0' ?>
<annot version="1.0">

710  <description take-effect="before" target="/HTML[1]/BODY[1]/*[1]">
            <remove />
     </description>

720  <description take-effect="before" target="/descendant::TABLE[1]">
            <keep />
     </description>

730  <description take-effect="before" target="/descendant::TR[2]">
            <remove />
     </description>

</annot>
```

FIG. 7B

740

```
<html>
  <head>
  <TITLE>A Simple Example To Illustrate Table Scoped Clipping</TITLE>
  </head>
  <body>
  <H1>HTML is Easy To Learn</H1>
  <TABLE>
  <TR>
  <TD> Cars</TD>
  <TD> Colors</TD>
  <TD> Interiors</TD>
  </TR>
  <TR>
  <TD> 2 Door</TD>
  <TD> Red</TD>
  <TD> Leather</TD>
  </TR>
  </TABLE>
  <P>Welcome to the world of HTML.
  This is the first paragraph. While short it is
  still a paragraph!</P>
  <P>And this is the second paragraph.</P>
  </body>
  </html>
```

750

760

770

DO NOT COPY

FIG. 7C

760

```
<html>
  <head>
  <TITLE>A Simple Example To Illustrate Table Scoped Clipping</TITLE>
 </head>
  <body>
  <TABLE>
  <TR>
  <TD> Cars</TD>
  <TD> Colors</TD>
  <TD> Interiors</TD>
  </TR>
  </TABLE>
  <P>Welcome to the world of HTML.
  This is the first paragraph. While short it is
  still a paragraph!</P>
  <P>And this is the second paragraph.</P>
  </body>
  </html>
```

Docket No. RSW920000166US1

FIG. 8

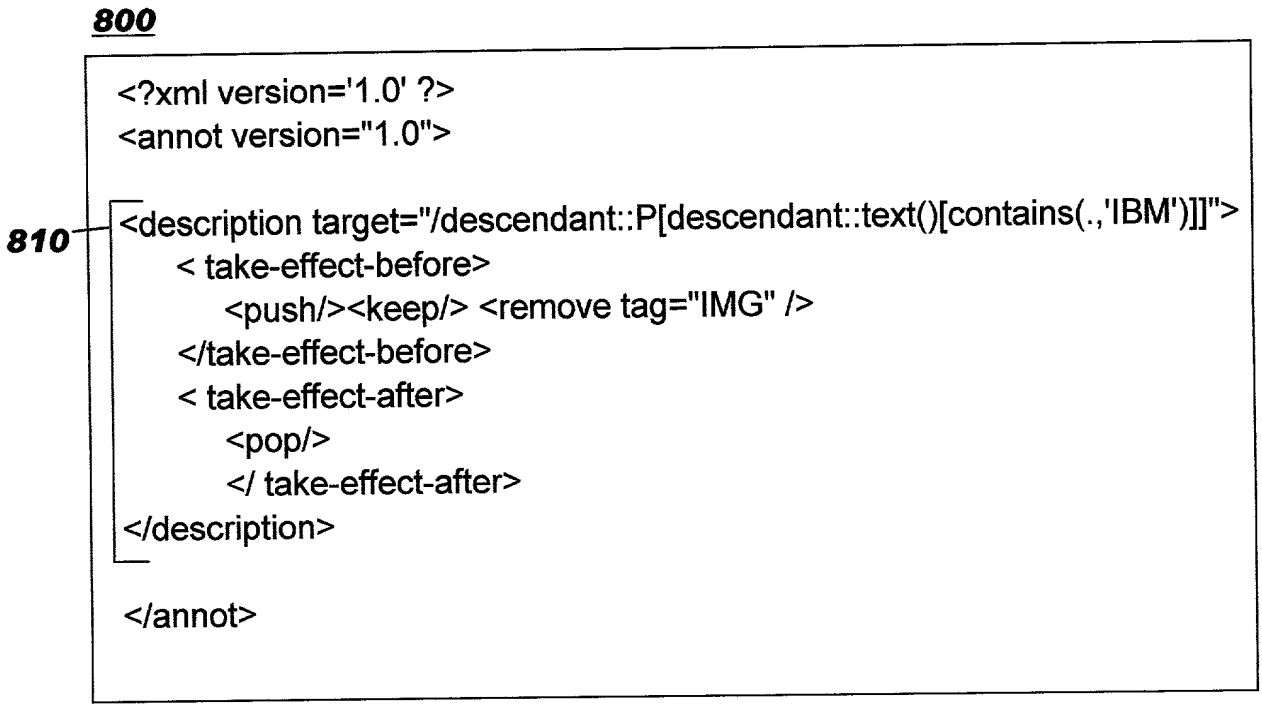

800
810
<?xml version='1.0' ?>
<annot version="1.0">
<description target="/descendant::P[descendant::text()[contains(.,'IBM')]]">
< take-effect-before>
<push/><keep/> <remove tag="IMG" />
</take-effect-before>
< take-effect-after>
<pop/>
</ take-effect-after>
</description>
</annot>

FIG. 9A

900

```
<?xml version='1.0' ?>
<annot version="1.0">
  <description take-effect="before" target="/descendant::FORM[1]">
    <replace>
      <form>
        <text>NEW prompt for INPUTTEXT3(now a select)</text>
        <field name="INPUTTEXT3" type="SELECT">
            <option value="No" label="No." />
            <option value="Yes" label="Yes." />
            <option value="Maybe" label="Don't Care" />
        </field>                                                    910  920
        <text>NEW prompt for INPUTTEXT2</text>
        <field name="INPUTTEXT2" value="bottle washer" />
        <field name="INPUTTEXT1" value="Bob Jones" type="HIDDEN" />
        <field type="SUBMIT" />
      </form>
    </replace>
  </description>
</annot>
```

FIG. 9B

930

```
<HTML>
 <HEAD>
  <TITLE>Form Test Page</TITLE>
  <META content="text/html; charset=iso-8859-1" http-equiv=Content-Type>
  <META content="MSHTML 5.00.2722.2800" name=GENERATOR>
 </HEAD>
 <BODY bgColor=#ffffff text=#000000>
  <H1 ALIGN="center">Form Example </H1> <BR>
If annotation has been applied, the first input field will be made hidden and given a default value,
the third input field will become the first input field listed and will also be converted into a select
box, and the second input field will have a new default value (if default values are supported by
the device)<BR>
  <FORM>
   <B>Prompt For INPUTTEXT1</B>
   <INPUT TYPE=TEXT NAME="INPUTTEXT1" SIZE=25 VALUE="Bob Smith"><BR>
   <B>Prompt for INPUTTEXT2</B>
   <INPUT TYPE=TEXT NAME="INPUTTEXT2" SIZE=25 VALUE="cook"><BR>
   <B>Prompt for INPUTTEXT3</B>
   <INPUT TYPE=TEXT NAME="INPUTTEXT3" SIZE=25 VALUE="Blue"><BR>
   <INPUT TYPE=SUBMIT NAME="SUBMIT" VALUE="RESPOND">
  </FORM>
 </BODY>
</HTML>
```

940

FIG. 9C

950

```
<HTML>
 <HEAD>
  <TITLE>Form Test Page</TITLE>
  <META content="text/html; charset=iso-8859-1" http-equiv=Content-Type>
  <META content="MSHTML 5.00.2722.2800" name=GENERATOR>
 </HEAD>
 <BODY bgColor=#ffffff text=#000000>
  <H1 ALIGN="center">Form Example </H1> <BR>
If annotation has been applied, the first input field will be made hidden and given a
default value, the third input field will become the first input field listed and will also be
converted into a select box, and the second input field will have a new default value (if
default values are supported by the device)<BR>
  <FORM>
   NEW input for INPUTTEXT3(now a select)
   <select name="INPUTTEXT3">
    <option value="No">No.
    <option value="Yes">Yes.
    <option value="Maybe">Don't Care
   </select>
   NEW prompt for INPUTTEXT2
   <input type="TEXT" name="INPUTTEXT2" size="25" value="bottle washer">
   <input type="HIDDEN" name="INPUTTEXT1" value="Bob Jones">
   <input type="SUBMIT" name="SUBMIT" value="RESPOND">
  </FORM>
 </BODY>
</HTML>
```

960

FIG. 10

1000

1010

```
<?xml version='1.0' ?>
<annot version="1.0">

<description target="/descendant::IMG[globb-search(@src,'*.{jpg,gif,png}*']">
    < take-effect-before>
        <push/>
        <replace>
            <text> ..PIC.. </text>
        </replace>
    </take-effect-before>
    < take-effect-after>
        <pop/>
        </ take-effect-after>
</description>

</annot>
```

Exhibit 1026, p. 16 of 33

F00220 E800F660

FIG. 11A1

FIG. 11A1
FIG. 11A2

FIG. 11A

1100

```
<?xml version="1.0" ?>
<annot version="1.0">
   <comment> This is the ExternalAnnotationTest.html page </comment>

   <description take-effect="before" target="/HTML[1]/BODY[1]/*[1]">
      <remove />
   </description>
                          1110
   <description take-effect="before" target="/descendant::TABLE[1]">
      <keep />
      <insertcomment> This should be inserted into the HTML Source </insertcomment>
1120  <insertattribute name="summary" value="Added Summary for the table" />
1130  <table majoraxis="row">
         <column index="1" clipping="remove" />
         <column index="*" clipping="keep" />          1140
         <row index="*" clipping="keep" />
         <row index="2" clipping="remove" />
      </table>
   </description>

   <description take-effect="after" target="/descendant::TABLE[1]">
      <remove />
   </description>
```

RSW920000166US1
K. Britton, et al
Enhanced Transcoding of Structured Documents
Through Use of Annotation Techniques
17/33

FIG. 11A2

```
<description take-effect="before"
        target="/descendant::TABLE[2]/TBODY[1]/TR[1]/TH[1]/*[1]">
    <keep />
</description>
<description take-effect="after"
        target="/descendant::TABLE[2]/TBODY[1]/TR[1]/TH[1]/*[1]">
    <remove />
</description>
<description take-effect="before"
        target="/descendant::TABLE[2]/TBODY[1]/TR[1]/TH[3]/text()">
    <keep />
</description>
<description take-effect="after"
        target="/descendant::TABLE[2]/TBODY[1]/TR[1]/TH[3]/text()">
    <remove />
</description>

</annot>
```

FIG. 11B

1150

```
<HTML>
<HEAD>
<TITLE>External Ano</TITLE>
</HEAD>
<BODY>
<B>Hello world.</B>

<TABLE>
<TR><TH>Cars</TH><TH>Colors</TH><TH>Interiors</TH></TR>
<TR><TH>2 Door</TH><TH>Red</TH><TH>Leather</TH></TR>
<TR><TH>4 Door</TH><TH>Blue</TH><TH>Cloth</TH></TR>
<TR><TD>Convertible</TD><TD>Black</TD><TD>Vinyl</TD></TR>
</TABLE>

Remove This text.

<TABLE>
<TR><TH><B>Warranty</B></TH><TH><B>Length</B></TH>
      <TH>Restrictions</TH>
</TR>
<TR><TH>Silver</TH><TH>2 Years</TH><TH>Yes</TH></TR>
<TR><TH>Gold</TH><TH>5 Years</TH><TH>No</TH></TR>
</TABLE>

</BODY>
</HTML>
```

FIG. 11C

1160

```
<HTML>
<HEAD>
<TITLE>External Annotation</TITLE>
</HEAD>
<BODY>

<!-- This should be inserted into the HTML Source -->

<TABLE summary="Added Summary for the table">
<TR><TH>Colors</TH><TH>Interiors</TH></TR>
<TR><TH>Blue</TH><TH>Cloth</TH></TR>
<TR><TD>Black</TD><TD>Vinyl</TD></TR>
</TABLE>

<B>Warranty</B>
Restrictions

</BODY>
</HTML>
```

1170

1180

FIG. 12A

1200

ITEM	BUY	SELL
ibm	$100	$120
lotus	$80	$75

FIG. 12B

ITEM
BUY
SELL
ibm
$100
$120
lotus
$80
$75

FIG. 12C

1210

ITEM
ibm
BUY
$100
SELL
$120
ITEM
lotus
BUY
$80
SELL
$75

Docket No. RSW920000166US1

FIG. 13A

1300

```
<?xml version='1.0' ?>                    1310
<annot version="1.0" condition="((User_Agent=Mozilla/4.*) |
(User_Agent=Mozilla/5.*)) &amp;amp; !(User_Agent=*MSIE*)">
...rest of external annotation file follows...
</annot>
```

FIG. 13B

1320

```
<description take-effect="before"
    target="/HTML[1]/BODY[1]/*[1]"
1330 condition="((User_Agent=Mozilla/4.*) | (User_Agent=Mozilla/5.*))
        &amp;amp;!(User_Agent=*MSIE*)" >
    <remove />
</description>
```

FIG. 13C

1340

```
<!--
 <?xml version="1.0" encoding="ISO-8859-1"?>
 <annot version="1.0"  condition="((User_Agent=Mozilla/4.*) |
  (User_Agent=Mozilla/5.*)) &amp;amp; !(User_Agent=*MSIE*)">
  <remove/>
 </annot>
-->
```

FIG. 14

1400

```
<description take-effect="before" target="/descendant::IMG[2]">
    <inserthtml><![CDATA[ <p>  Hello World]]></inserthtml>
</description>
```

1410

FIG. 15

```
<insertmarkup>
    <![CDATA[<do type="accept" label="Next"> <go href="#Second_Card"/></do>
</insertmarkup>
```

FIG. 16

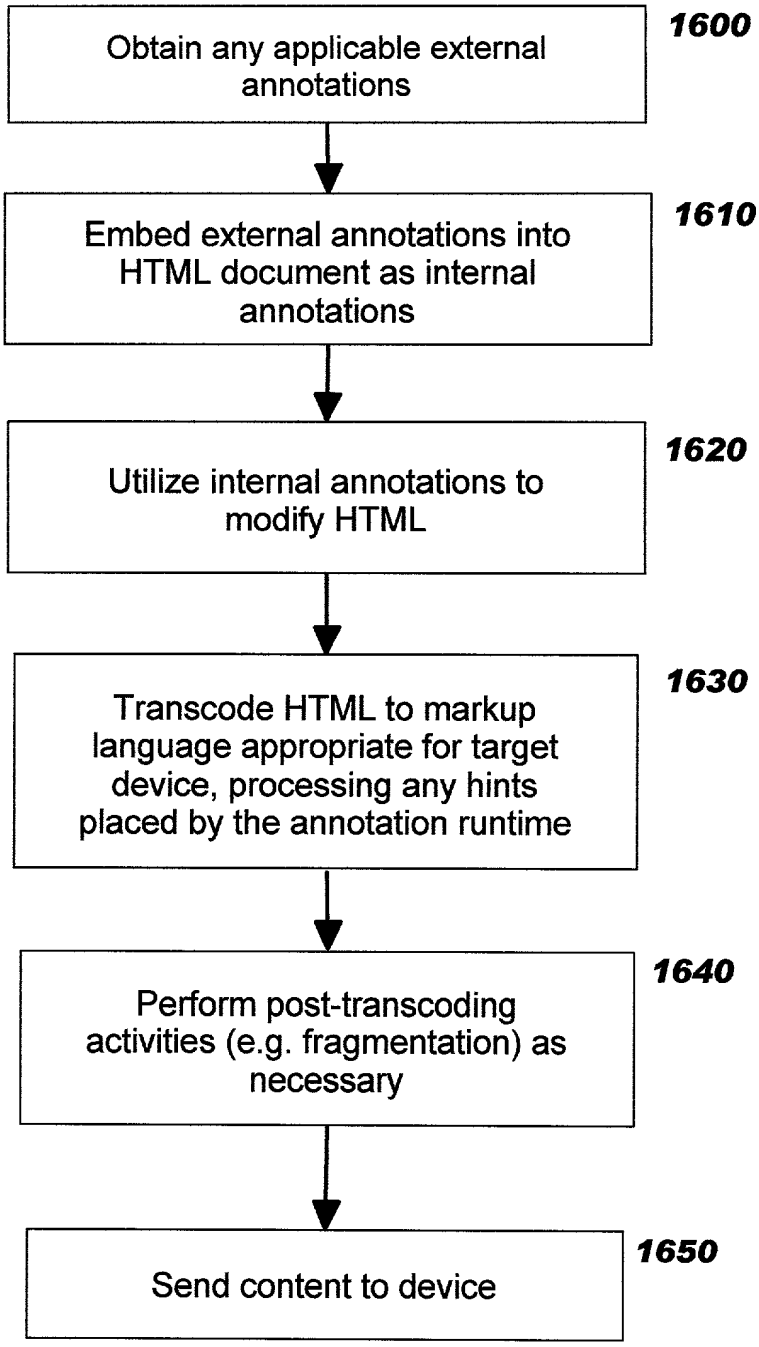

Obtain any applicable external annotations
1600
Embed external annotations into HTML document as internal annotations
1610
Utilize internal annotations to modify HTML
1620
Transcode HTML to markup language appropriate for target device, processing any hints placed by the annotation runtime
1630
Perform post-transcoding activities (e.g. fragmentation) as necessary
1640
Send content to device
1650

FIG. 17

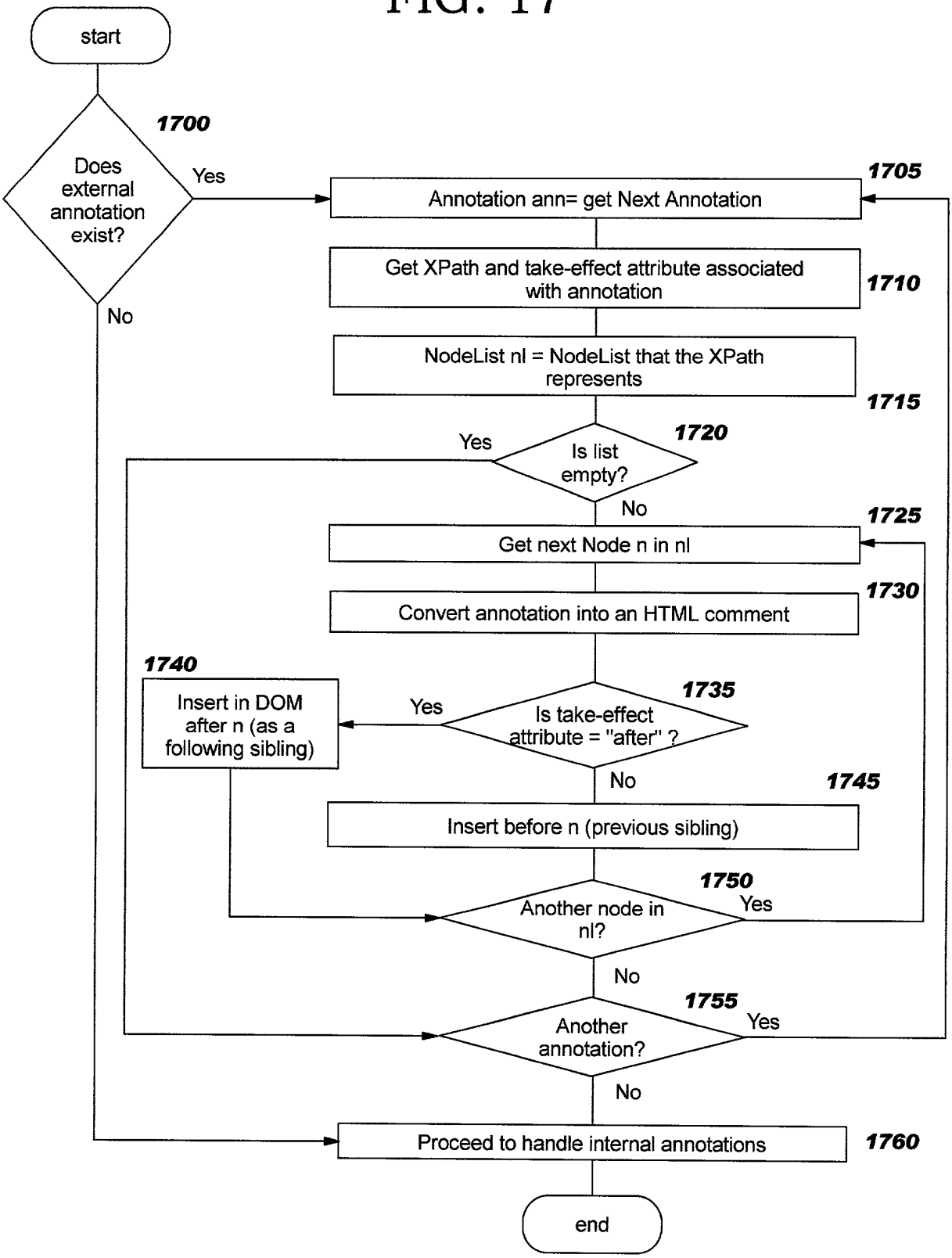

start
1700
Does external annotation exist?
Yes
No
1705
Annotation ann= get Next Annotation
Get XPath and take-effect attribute associated with annotation
1710
NodeList nl = NodeList that the XPath represents
1715
1720
Is list empty?
Yes
No
1725
Get next Node n in nl
1730
Convert annotation into an HTML comment
1740
Insert in DOM after n (as a following sibling)
1735
Is take-effect attribute = "after" ?
Yes
No
1745
Insert before n (previous sibling)
1750
Another node in nl?
Yes
No
1755
Another annotation?
Yes
No
Proceed to handle internal annotations
1760
end

FIG. 18

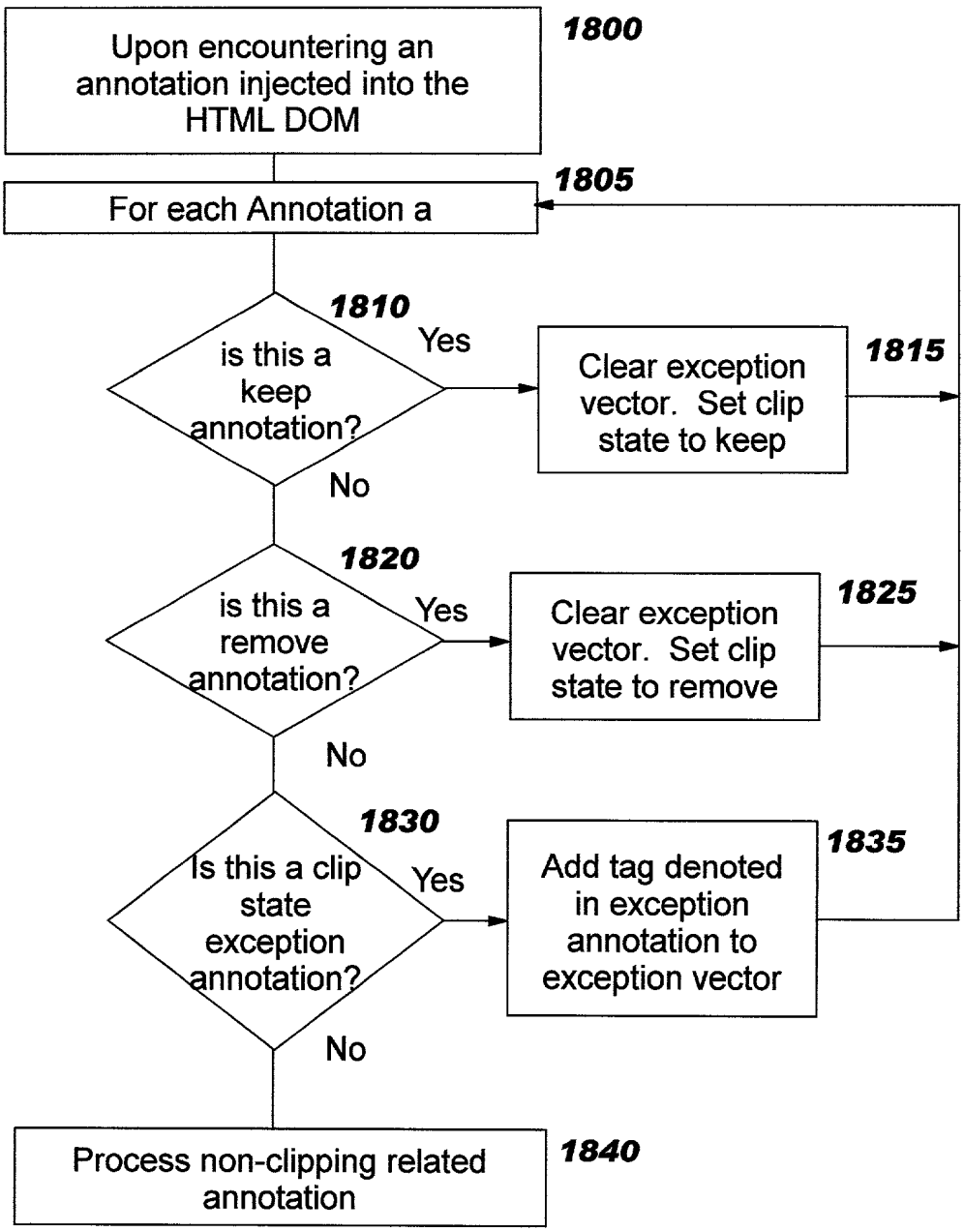

Upon encountering an annotation injected into the HTML DOM
1800
For each Annotation a
1805
is this a keep annotation?
1810
Yes
Clear exception vector. Set clip state to keep
1815
No
is this a remove annotation?
1820
Yes
Clear exception vector. Set clip state to remove
1825
No
Is this a clip state exception annotation?
1830
Yes
Add tag denoted in exception annotation to exception vector
1835
No
Process non-clipping related annotation
1840

FIG. 19

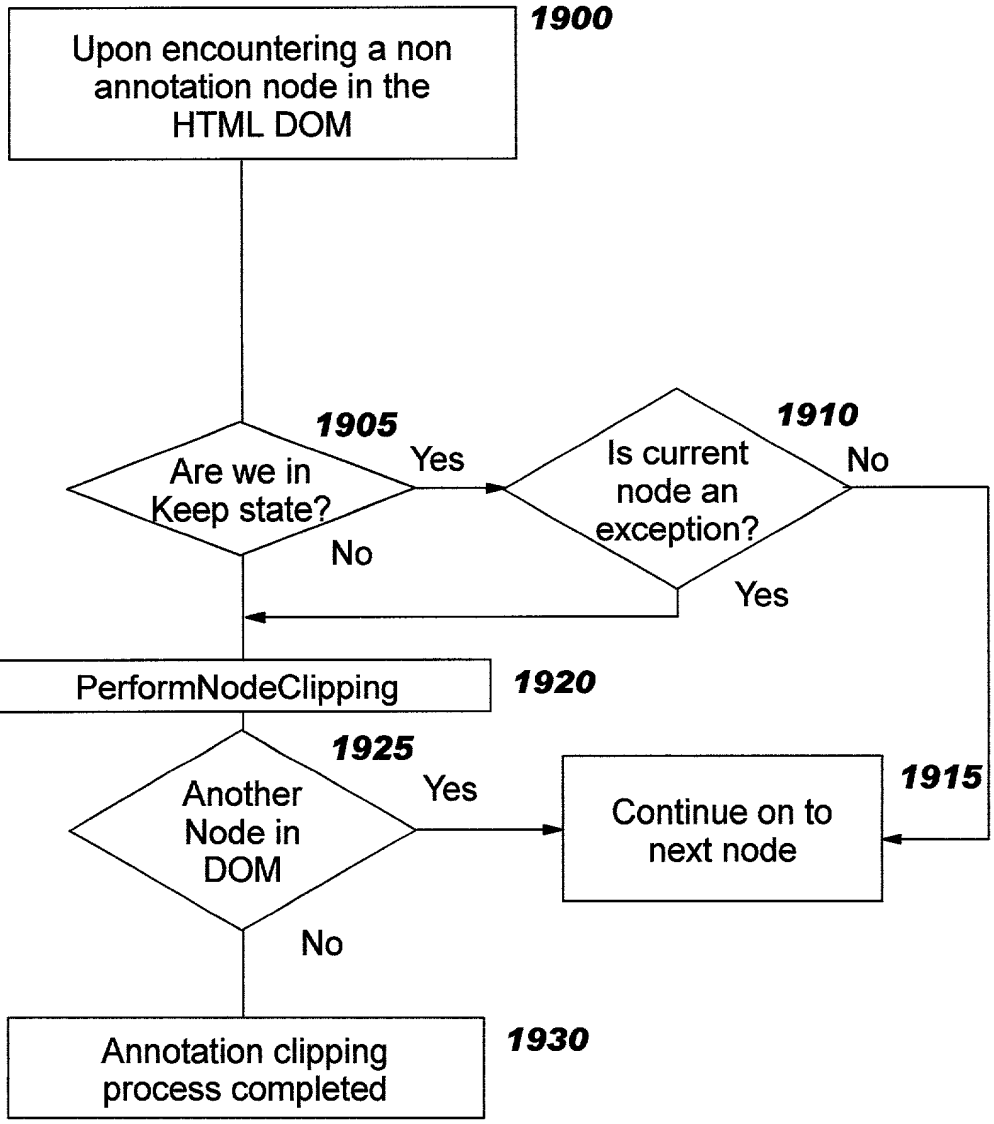

1900
Upon encountering a non annotation node in the HTML DOM
1905
Are we in Keep state?
Yes
No
1910
Is current node an exception?
No
Yes
PerformNodeClipping
1920
1925
Another Node in DOM
Yes
No
1915
Continue on to next node
Annotation clipping process completed
1930

FIG. 20

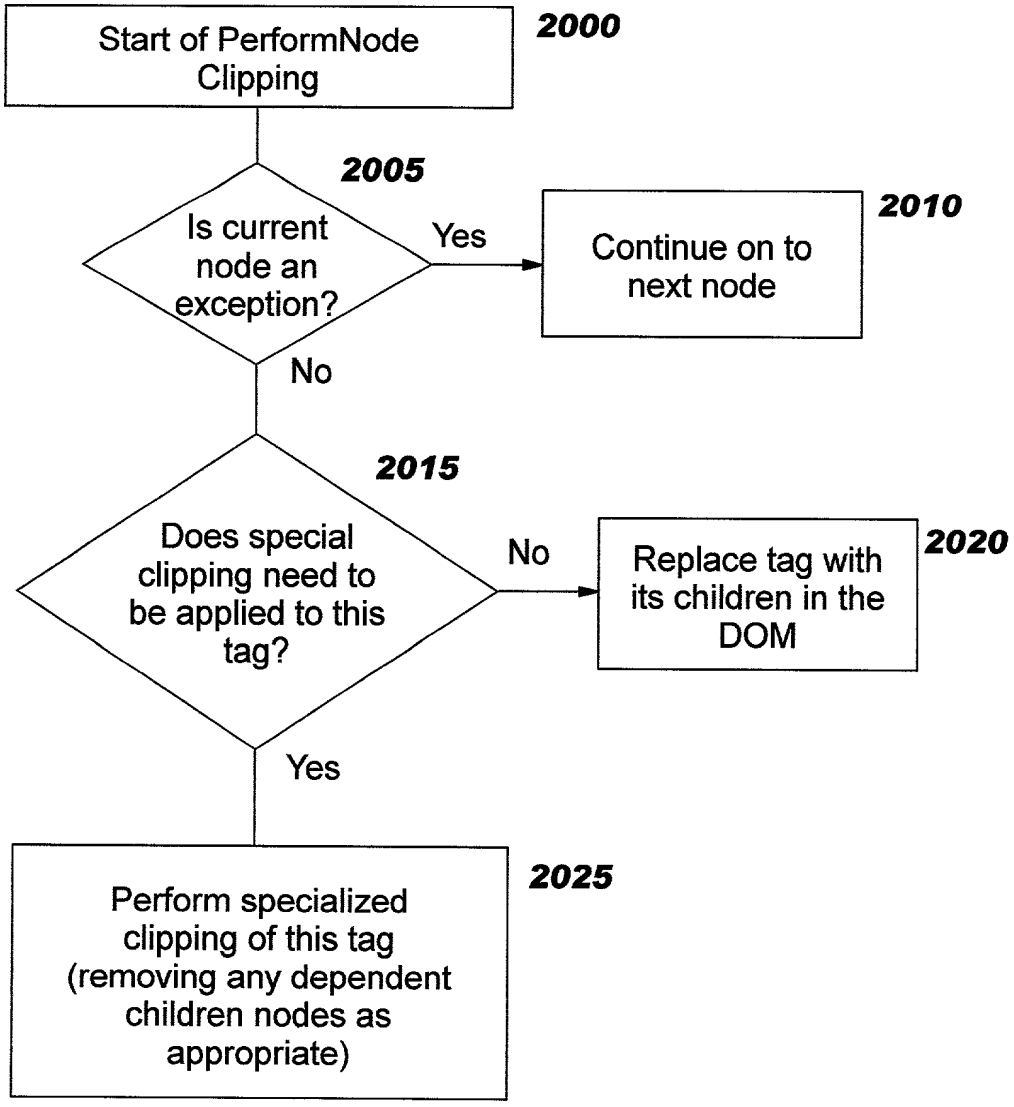

Start of PerformNode Clipping
2000
2005
Is current node an exception?
Yes
Continue on to next node
2010
No
2015
Does special clipping need to be applied to this tag?
No
Replace tag with its children in the DOM
2020
Yes
Perform specialized clipping of this tag (removing any dependent children nodes as appropriate)
2025

FIG. 21A

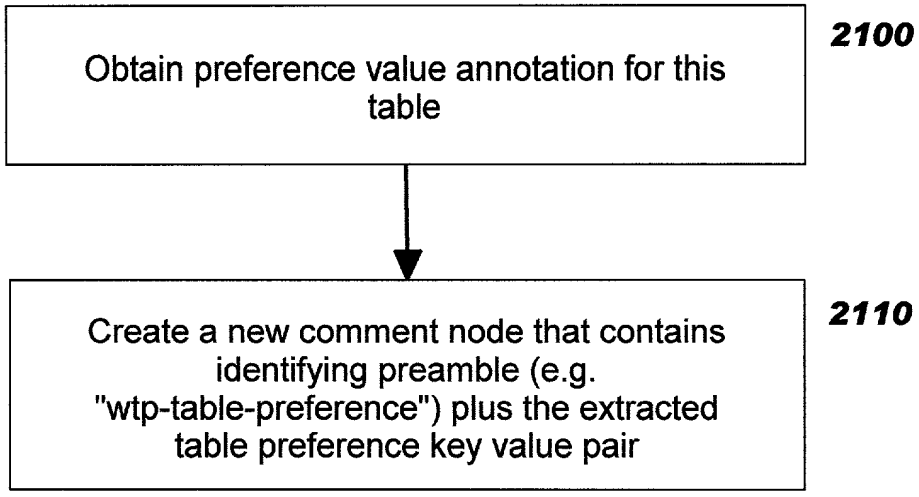

Obtain preference value annotation for this table
2100
Create a new comment node that contains identifying preamble (e.g. "wtp-table-preference") plus the extracted table preference key value pair
2110

FIG. 21B

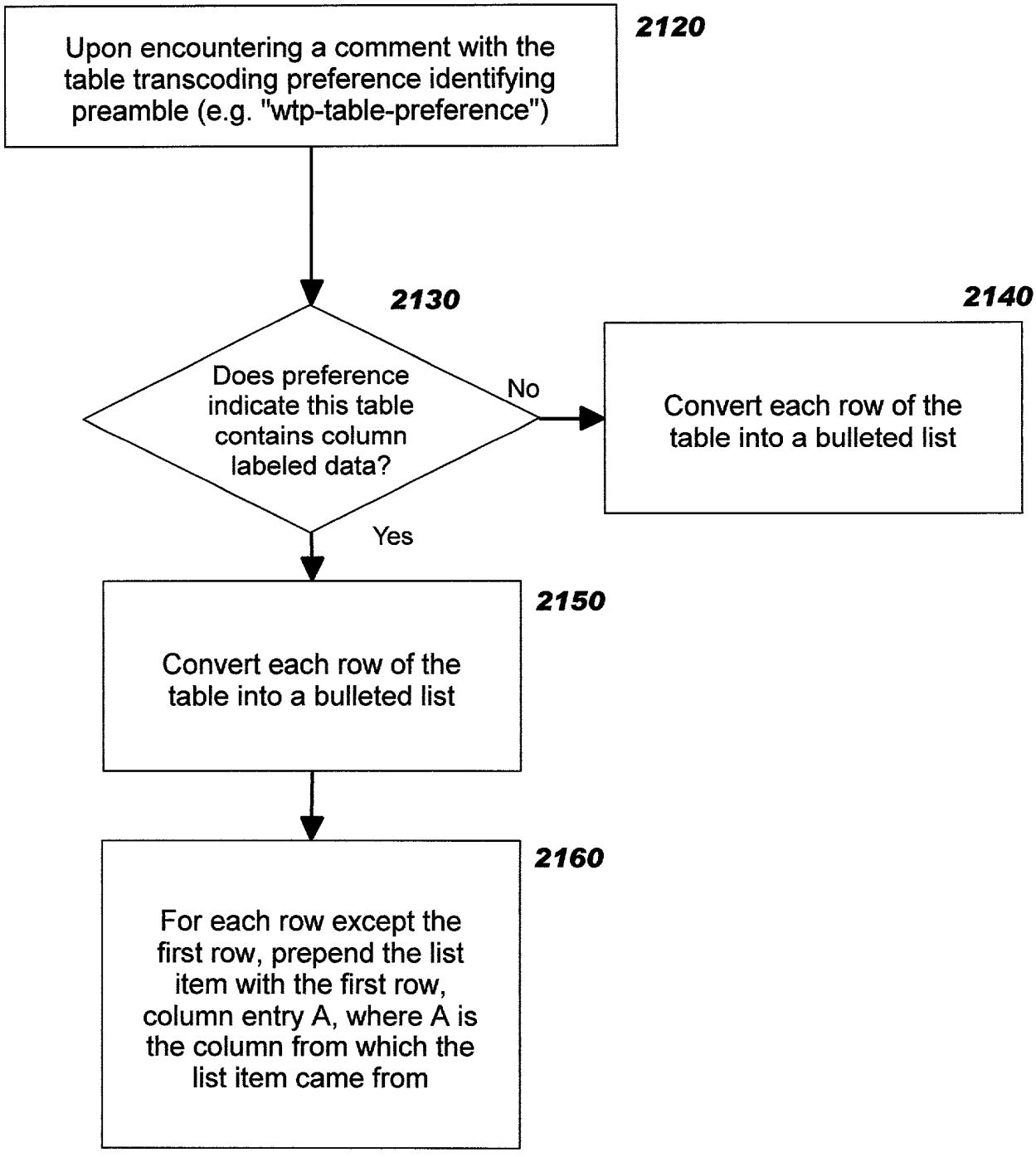

Upon encountering a comment with the table transcoding preference identifying preamble (e.g. "wtp-table-preference")
2120
2130
Does preference indicate this table contains column labeled data?
No
2140
Convert each row of the table into a bulleted list
Yes
2150
Convert each row of the table into a bulleted list
2160
For each row except the first row, prepend the list item with the first row, column entry A, where A is the column from which the list item came from

FIG. 22

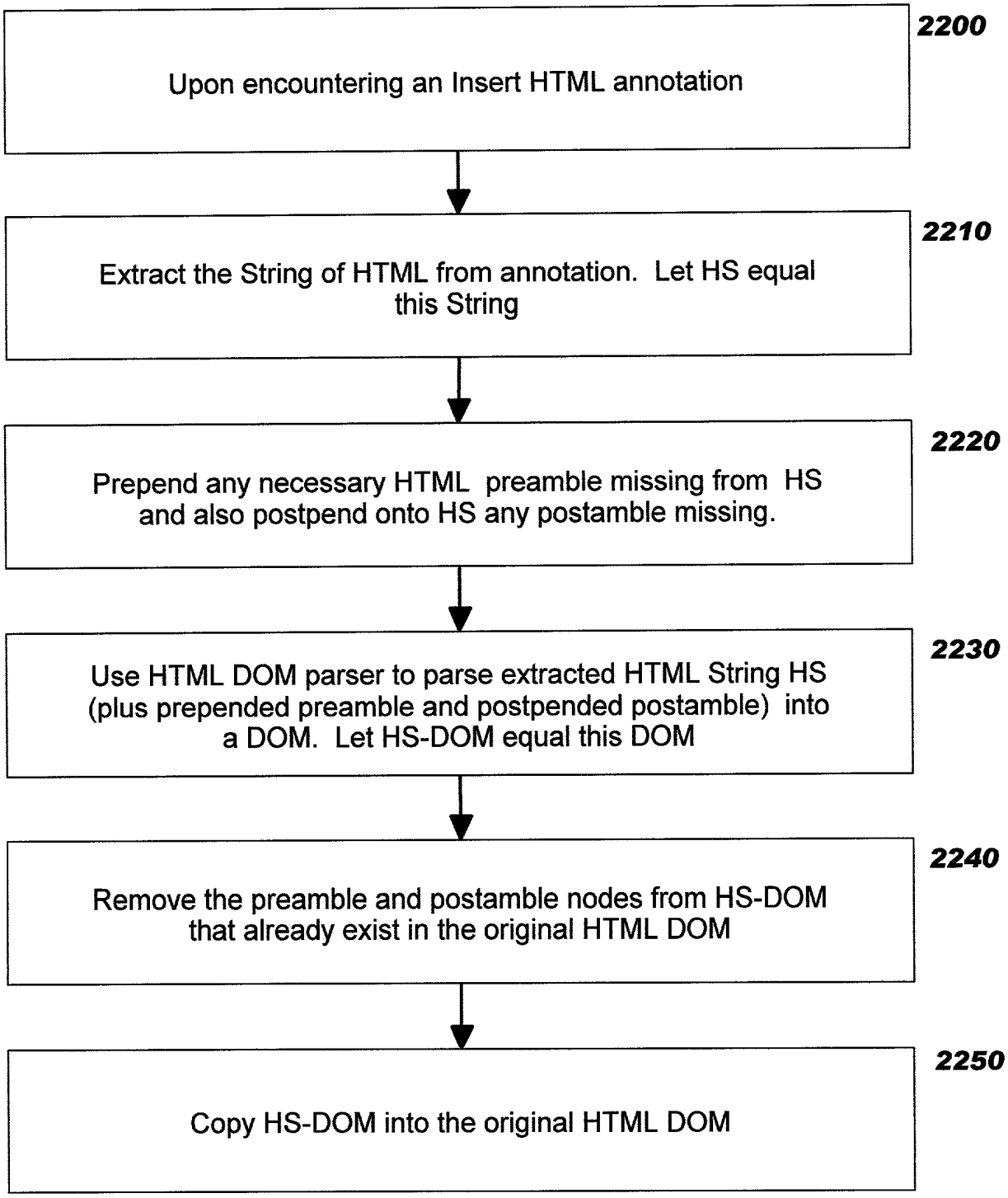

Upon encountering an Insert HTML annotation
2200
Extract the String of HTML from annotation. Let HS equal this String
2210
Prepend any necessary HTML preamble missing from HS and also postpend onto HS any postamble missing.
2220
Use HTML DOM parser to parse extracted HTML String HS (plus prepended preamble and postpended postamble) into a DOM. Let HS-DOM equal this DOM
2230
Remove the preamble and postamble nodes from HS-DOM that already exist in the original HTML DOM
2240
Copy HS-DOM into the original HTML DOM
2250

FIG. 23A

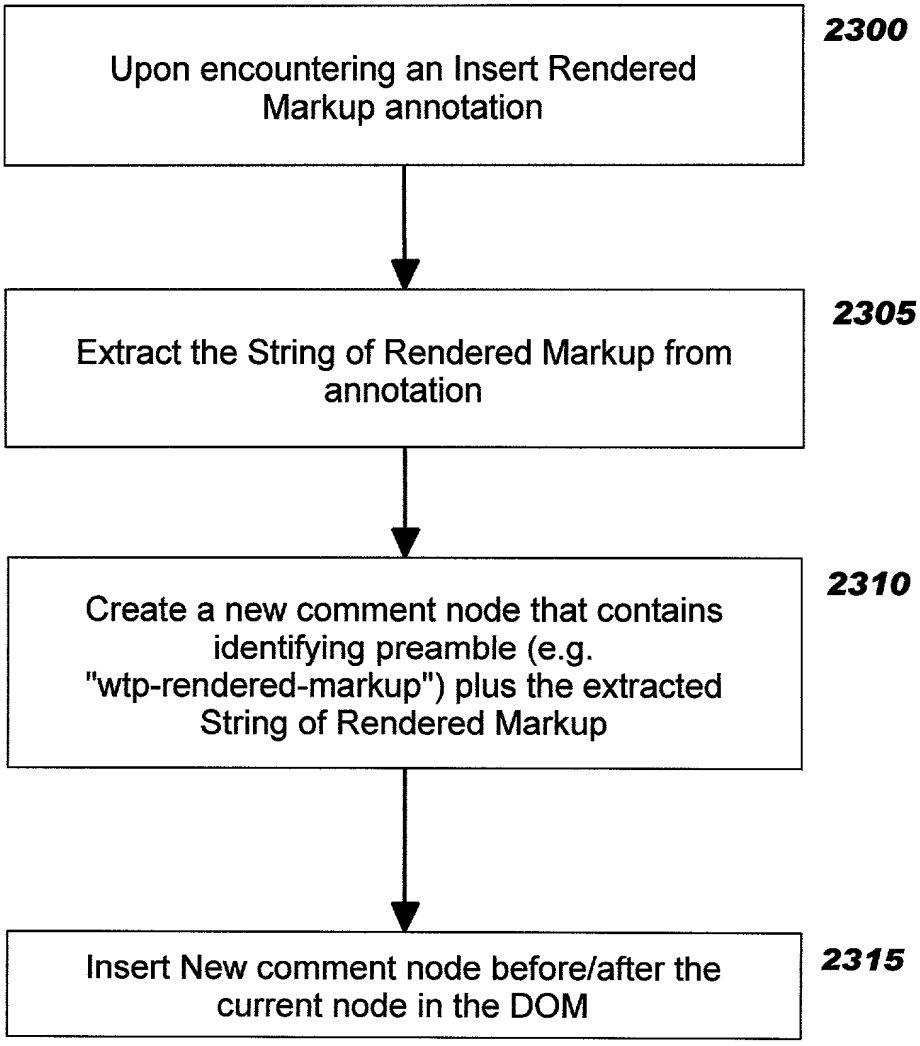
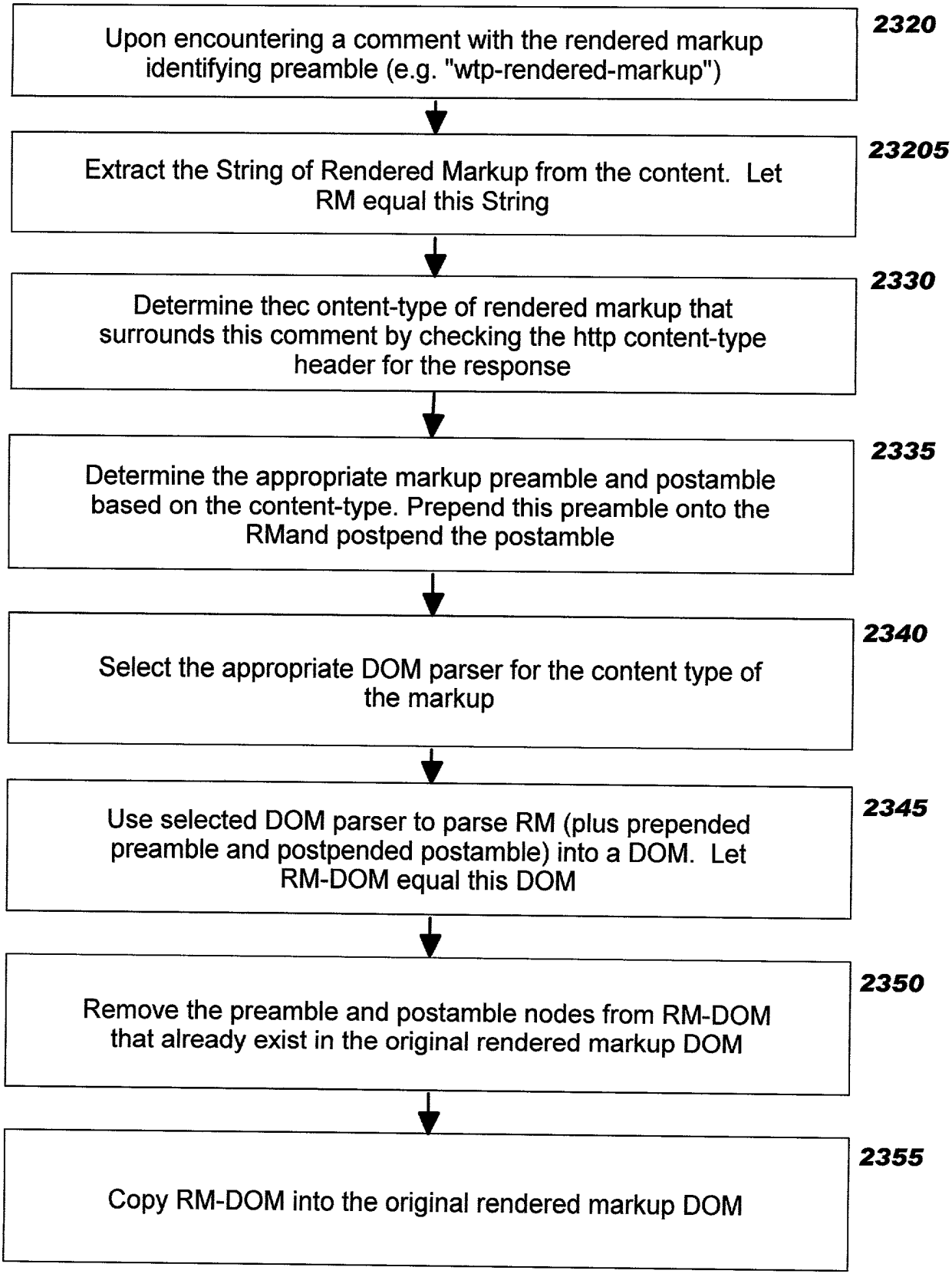

Upon encountering an Insert Rendered Markup annotation
2300
Extract the String of Rendered Markup from annotation
2305
Create a new comment node that contains identifying preamble (e.g. "wtp-rendered-markup") plus the extracted String of Rendered Markup
2310
Insert New comment node before/after the current node in the DOM
2315

FIG. 23B


Upon encountering a comment with the rendered markup identifying preamble (e.g. "wtp-rendered-markup")
2320
Extract the String of Rendered Markup from the content. Let RM equal this String
23205
Determine thec ontent-type of rendered markup that surrounds this comment by checking the http content-type header for the response
2330
Determine the appropriate markup preamble and postamble based on the content-type. Prepend this preamble onto the RMand postpend the postamble
2335
Select the appropriate DOM parser for the content type of the markup
2340
Use selected DOM parser to parse RM (plus prepended preamble and postpended postamble) into a DOM. Let RM-DOM equal this DOM
2345
Remove the preamble and postamble nodes from RM-DOM that already exist in the original rendered markup DOM
2350
Copy RM-DOM into the original rendered markup DOM
2355